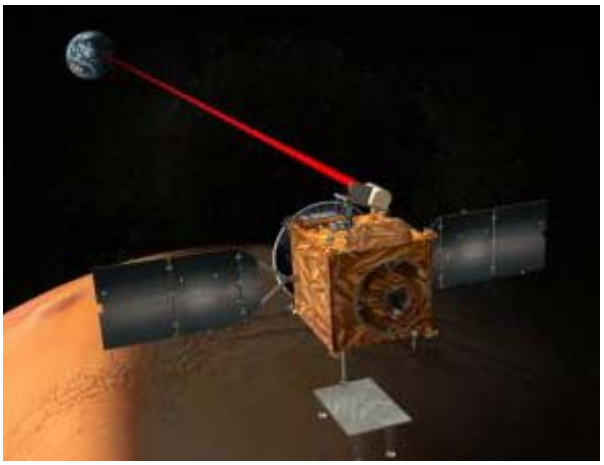
Innovative Partnerships Program **Success Story**



LTOC improves space Laser performance

"The catalyst is being used all over the world. Any manufacturing that involves cutting, drilling or welding can be done by a carbon dioxide laser … The laser gives you an extremely clean cut."

George Wood,
Vice President for Business Development
STC Catalysts Inc.

Low Temperature Oxidation Catalyst

Space-Age Catalyst Helps Lasers Hit Peak Performance

As co-inventor and an adapter of the original research, SCi has a licensing agreement for laser applications with NASA's Langley Research Center. Because the catalyst efficiently recombines the circulating gases that power certain classes of lasers, it can reduce the need for gas re-supply. SCi estimates that catalyst operators can recoup their initial investment in as little as three months with significant per-laser savings for businesses that use dozens of lasers for cutting, welding and drilling.

Technology ...

A team of NASA scientists were designing an essential component for a key mission. The result was a one-of-a-kind inert catalyst that operates at room temperature to help space lasers perform at peak capacity by reconstituting carbon dioxide, a source of laser power.

Measurable Impact ...

- The catalyst reduces the need for gas re-supply by as much as 75 percent.
- The catalyst is purchased for research and military applications
- One version of the catalyst, under development, can remove lung-damaging toxins such as formaldehyde, hydrocarbons and carbon monoxide from buildings and homes.
- The catalyst is used in the helmet-mounted breathing apparatus of some drivers on the NASCAR circuit.

Worth Noting ...

- The catalyst is made by STC Catalysts Inc. (SCi), a subsidiary of Science and Technology Corporation in Hampton, Virginia.
- The catalyst is being sold to laser manufacturers and industrial users in the United States, Italy, Japan, France, Australia, South Africa and the Czech Republic.
- Emergency-filtration systems for first responders is another potential market segment

To Learn More ...

www.stc-catalysts.com/

http://technology.nasa.gov/

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